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Methodical uncertainty of criticality precise calculations for fast lead reactor

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Criticality calculations for BFS-1 test facility with lead were performed using Monte-Carlo code MCU-BR to verify some evaluated neutron data files for fast spectra. These data files are RUSFOND, ENDF/B-VII.1, JEFF-3.2, JENDL-4.0, CENDL-3.1 and some combined data. The continuous energy treatment (ACE format) was used. Critical assemblies include the pellets consisted from fissionable materials, lead, stainless steel and other. The average K_{eff} evaluation for each critical assembly was obtained. Standard deviation for K_{eff} at various data files is in interval 0,1% - 0,4% with probability of 0,55 - 0,82, for average K_{eff} evaluation standard deviation is 0,14% with probability of 0,73.

Country/Int. Organization

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